DOCUMENT RESUME

ED 154 305 CG 012 581

AUTHOR Hertz-Lazarowitz, Rachel; And Others
TITLE Social Interaction and Social Organization of Israeli Five to Seven Year Olds.
PUB DATE [76]
NOTE 35p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Behavior Development; Childhood Friendship; *Children; Elementary Education; *Interpersonal Relationship; *Observation; *Peer Relationship; *Play; Research Projects; *Social Behavior
IDENTIFIERS *Israel

ABSTRACT

Children (N=408) from three experimental infant schools in Israel were observed during their free play for three consecutive weeks, using observational categories based on Parten's (1932) work. Findings based on 2,157 observations provide norms of social behavior and organization for ages five to seven, an age group which was not studied intensively before. Findings include: (1) a high percentage of positive social interaction (54%), a low percentage of negative social interaction (3.4%) and a moderate percentage of solitary play (18.8%) and onlooker behavior (11%) were found; (2) the social organization pattern was 57% dyads, 28% group of three to four children, 14% groups of five or more children; (3) no age difference in social behavior was found, but kindergartners played significantly less in large groups than first graders; (4) boys were significantly higher in their physical negative behavior and physical positive behavior. In general, boys were significantly more active than girls and interacted with more playmates. The paucity of naturalistic observational studies about social behavior patterns in the early school years enables only a partial comparison to former work, which is heavily based on children aged two to five. The high level of socially oriented behaviors found in the present study sharply contradicts findings claiming that children in the 70's are less socially oriented in their play activities than were their contemporaries of 40 years ago. (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED154305

SOCIAL INTERACTION AND SOCIAL ORGANIZATION OF ISRAELI FIVE TO SEVEN YEAR OLDS

Rachel Hertz-Lazarowitz, Dina Feitelson
University of Haifa

Willard W. Hartup
University of Minnesota

Shoshana Zahavi
University of Haifa

Running head: Social Interaction & Organization

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
R. Hertz-Lazarowitz
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

CG 012581

HERTZ-LAZAROWITZ R., FEITELSON D., HARTUP W., ZAHAVI S.

SOCIAL INTERACTION AND SOCIAL ORGANIZATION OF ISRAELI FIVE TO SEVEN YEAR OLDS

In recent years the community of child development - alists has become increasingly aware of the need to study developmental patterns in naturalistic settings. In the area of social behavior a few pioneering studies of this kind were undertaken already about fifty years ago (Goodenough 1928, Jersild & Markey 1935, Manwell & Mengert 1934, Parten 1932, 1933 Loomis 1931).

These early studies dealt exclusively with children below the age of five and were usually restricted to rather small samples. As a result of the lack of further studies in th's early tradition especially Parten's study has over the years assumed the status of a classical study which is quoted in nearly all textbooks on social development (Hartup, in press). Not surprisingly the recent revival of interest in this area of research has resulted first and farmost in attempts to varify Parten's data with present day children (Barnes 1971, Goldman 1976, Rubin et al 1976). These studies showed that by and large the modes of behaviors described by Parten predominated also among present day preschool children in Canada and the United States.

The deviations which did occured were mainly reported by Barnes (1971) who found that the 42 Canadian preschoolers studied by him showed fewer instances of cooperative and associative behavior, and more solitary play in comparison with Parten's group.

Rubin at al (1976) and Hartup (in press) attributed this deviation mainly to sampling problems and not to an actual change in the sociability of present day children. Rubin et al (1976) in his own study combined both social play categories and cognitive play schemes (Smilansky 1968) in an attempt to link social and cognitive play development to social class variables. Middle class children in his study behaved exactly according to Parten's norms while his lower class group did deviate slightly in the direction of Barnes findings.

So far there have been no comparable attempts to extend the study of social behavior in naturalistic non-coercive settings beyond preschool age. One can only guess that a possible explanation of the lack of data on older children is that aggregates of preschoolers are usually more easily accessible for lengthy periods of observation during free play than older children.

The paucity of information about social behavior and social organization in free play situations seems especially crucial in view of the great importance attached by developmental theorists to social aspects of development during early school years (Sullivan 1953, Erickson 1963), and the impact of this development on the cognitive domain. (Piaget 1962, Smilansky 1968, Sutton Smith 1971, Feitelson 1975). Beyond the age of five children in most societies continue to spend considerable amounts of time in self directed activities. Games with rules are only one dimension of children's activity. There are relatively many studies of various aspects of game behavior of school aged children (Avedon & Sutton Smith 1971, Sutton Smith 1972, Opie & Opie, 1969, Eiferman, 1971) but none of those studies provide a full description of the total inventory and developmental trends of children's social behavior in naturalistic setting of free play during the crucial ages five to seven.

The aims of the present study were to:

(a) describe social behavior and social organization patterns of five to seven year olds.

(b) to study the impact of age and sex on these patterns.

(c) to try to establish developmental trends of social behavior by relating the result of the present study to findings of studies on younger children.

An experimental project in the Israeli school system, concerned with setting up British type infant schools provided a suitable framework for observing a relatively large population of five to seven years olds in conditions resembling those which had prevailed in earlier studies of younger children. Moreover, due to the experimental nature of the project, free play situations in participating schools could be highly standardised.

Method

Subjects

Four hundred and eight children, the total population of six kindergarten and six first grade classes, were the subjects in this investigation. The classes were in three experimental infant schools - two kindergarten and two first grade classes in each school. The schools were located in lower middle-class neighborhoods in three different towns in Israel.

The towns were in the same area of the country, and the schools were chosen because of similarity in weather conditions, population and playground size and equipment.

Schools were in session five hours a day, six days a week. Each school day included an outdoor free-play period of approximately forty minutes. During the period of study the time of outdoor play was coordinated in the three participating schools.

Procedure

Ten female students of Psychology or Education at the University of Haifa served as observers in this study. One observer was assigned to each target group of twelve children. Each day the target group for that day - 6 boys and 6 girls, were randomly selected from each participating class, and the order of child observation was also randomized daily. Each child in the class had a colored name-tag. The colors of the tags enabled the observer to identify the target children and the class they belonged to. Thus, when there were two classes in the playground, tags of four different colors were used.

The observation lasted for three continuous weeks, five days a week, and altogether fifteen days in each class. The number of children observed each day was 144 (12 children x 4 classes x 3 schools). Altogether 2157 instances of social behavior were recorded - 144 children x 15 days = 2160. (Three instances had to be discarded as a target child left the playground). On different days the same child could serve repeatedly as target child. On the average each child was observed 5.2 times.

The instantaneous sampling procedure (Altman 1973) was used for observations. Thus the observer looked at child A on her list, recorded his/her level of social interaction,

looked at child B, recorded his/her level of social interaction and so on, until she had recorded the social behavior of each target child on her list.

The list of social behaviors used in order to classify the observed child's behavior was based on the categories used by Parten (1932), in the wake of Goodenough (1928, 1930) as augmented by Goldman (1976). There were seven main categories of social interaction: Positive behavior, negative behavior, solitary play, parallel play, and onlooker, adult directed and unoccupied behaviors. Each of the three first categories were also subdivided into verbal, physical, and verbal-physical components. (Hertz-Lazarowitz & Zahavi 1976).

In addition to the behavior category of the observed target child the observer also recorded the name and class of the child or children with whom the target child interacted. These records provided data on social organization patterns in:

(a) dyads - target child in social interaction with one other child.

(b) small groups - target child in interaction with two or three additional children.

(c) large groups - target child in interaction with four to six other children.

Inter-observer reliability was .94, based on six play periods (72 children) for each pair of observers.[8]

Results:

1. Social behavior patterns

A series of 2 (age) x 2 (sex) Anovas were conducted for each of the social behavior categories independently. The mean score of each uni-sex target group rather than individual scores served as basis for all analysises. Percentages were then calculated to describe the results.

Figure 1 presents the percentage of each of the seven social behavior categories during 2157 observations. Figure 2 presents in addition the verbal, physical and combined verbal-physical components of three of the categories.

A Newman - Keuls post hoc analysis indicated that among the seven basic social behavior categories the frequency of positive social interactions and solitary play for all subjects were ~~very~~ significantly ($p<.0001$) higher than the frequencies of the other five categories. An additional Newman - Keuls analysis of all thirteen categories showed that these differences were mainly due to the ~~very~~ significantly higher ($p<.001$) frequency of positive verbal-physical interactions, and solitary physical play in relation to all other categories.

Figure 3 presents sex differences in social behavior categories. A series of one way Anova's showed that boys were significantly higher on three of the thirteen categories

(a) physical positive behavior $F(1,357) = 3.69$ $p<.05$

(b) physical negative behavior $F(1,357) = 23.7$ $p<.001$

(c) and negative verbal - physical behavior $F(1,357) = 6.18$ $p<.01$.

Social behavior was also analyzed in terms of active versus non-active behavior categories. For this analysis only onlooker and unoccupied behavior incidents were considered non-active, while all behavior instances in the remaining five categories, namely positive and negative interactions and solitary, parallel and adult directed play were classified as active behavior.

According to this distinction 84% of all recorded behavior incidents were active. Boys were significantly more active than girls ($F(1,357) = 4.66$, $p<.02$).

The two age groups included in the study did not differ significantly on any of the thirteen categories, though there was a tendency for first graders to be higher than kindergarteners on verbal - physical positive behavior and lower on solitary physical play (see Figure 4).

2. Social organization

The following analysis of patterns of social organization are based on the records of the names of the children with whom the observed target child interacted actively. Instances of solitary and parallel play, as well as observer, unoccupied and adult directed behavior were not classified as group behavior and were therefore not included in this analysis.

There were 1231 instances of active positive or negative social behavior during which the target children interacted with a total of 2564 other children.

A Newman - Keuls analysis indicated significant differences $F=167.5$ $p<.001$) among the frequency of the three social organization patterns. (See Figure 5). The mean group size of small groups was 3.3 and the mean size of large groups was 5.4.

Figure 6 presents sex differences in social organization. Overall boys participated more than girls in social groups $F\ (1,357) = 4.66$ $p<.03$). This finding is in line with the previous finding that boys were socially more active than girls. More detailed analysis showed that boys tended to interact in dyads more than girls. This finding approached significance $F\ (1,357) = 2.92$ $p<.08$.

Figure 7 presents age differences in patterns of social organization. Kindergarten children tended to interact mainly in dyads or small groups. Kindergarteners participated significantly less frequently in large groups than first graders $F(1,357) = 5.25$, $p<.02$. Even when kindergarteners did indeed participate actively in large groups there were significantly fewer children in these groups than in large group organizations of first graders $F(1,357) = 4.80$ $p<.03$.

Discussion

The present study extends available information on patterns of social behavior and organization in naturalistic settings also to five to seven year olds, an age group which had been neglected in previous studies.

The categories of social behavior in the present study were derived from those developed by Goldman (1976). Thus positive social interaction in the present study is synonymous with the categories of cooperative and associative play in Parten's and other previous studies.

A striking finding of the present study is that between the ages of five and seven the relative amount of positive social behavior increased even beyond the high level of this behavior recorded in studies on younger children.

Both the Parten (1932) and Feitelson, Weintraub and Michaeli (1972) studies found an increase in positive social interactions from age 2;6 and 3 respectively onward, till by the end of preschool age this kind of behavior constituted approximately 40% of all play behavior, a level attained also by the middle class children in Rubin's Maioni's and Harnung's (1976) study. While Barnes reported a lower level of cooperative and associative interactions, also his study documents parallel developmental changes, namely that associative behavior increased sharply after age 4. The present study showed that by early school age, 54% of all social behavior was positive social interactive, i.e. group ball play, socio-dramatic role play, social conversation, or similar activities. First graders were slightly higher than kindergarteners, in positive social interaction but the difference between the two age groups was not significant.

Contrary to previous studies children in the present study were predominantly lower middle class. If Rubin et al's (1976) assertion about class differences in amount of social cooperation was proven correct, this would mean an even higher percentage of positive social interactions at this age. However, Rubin et al's statement is based at least partly on a misunderstanding of earlier results by Feitelson et al, who contrary to Rubin's reading of their results found that differences in the amount of cooperative play were due to grouping techniques and not to social class.

On the other hand it ought to be remembered that most children in Israel attend preschools for two to three years prior to entering kindergarten at age 5, and that both at preschool and in kindergarten they spend five hours a day, six days a week in school. Though Gehler's (1972) findings about positive social effects of kindergarten attendance in the Socialist Democratic Republic of Germany, are rather poorly documented and perhaps biased, there is no reason to discount the possibility altogether that extended school experience does indeed have positive social effects. Therefore one would have to bear in mind that the high percentage of positive social interactions found among Israeli five to seven year olds could perhaps be at least partly due to their comparatively intensive preschool and kindergarten experience.

Possibly the factor of amount of preschool experience could also be a plausible explanation of the low level of social cooperation reported by Barnes in contrast to the findings of other researchers. Barnes ascribed this difference to historical changes while Hartup and Rubin et al assumed that they were perhaps due to social class. However Barnes himself commented on the fact that his sample was limited as there was only one single kindergarten in his area. This leads one to assume that intensive preschool experience was not very common in that region. Nor does he or any of

the other researchers provide details about the amount of prior exposure of their subjects to preschool, or the number of hours spent weekly in school while the study was going on.

Another interesting finding was the relatively very low incidence of negative social behavior in our age group, only 3.4% of all recorded behaviors. This seems in line with Hartup's finding that older children in his study, who are comparable in age to part of our sample, were less aggressive per unit time, overall, than younger children (Hartup 1974). Moreover, also in the Feitelson, Weintraub and Michaeli study (1972) display of aggression declined with increase in age.

The low proportion of aggressive behavior among all observed behavior is all the more interesting in view of the great attention given aggressive behavior in research literature (Feshbach 1970, Blurton Jones 1972, Hartup 1974, Maccoby & Jacklin 1974). It brings to the fore a well known tendency, namely, that deviant rather than everyday behavior seems to have special attraction for researchers in behavioral sciences. As pointed out by Krebs (1970) and Bar Tal (1976) in other contexts, this tendency not infrequently results in an unbalanced picture of human behavior.

While developmental literature usually stresses the transfer to more verbal types of aggressive behavior with increase in age, (Jersield & Markey 1935, Walters et al. 1957, Feshbach 1970), in the special conditions of the present study - outdoor free play - aggressive manifestations were most often physical, e.g. shoving, hitting, taking forcibly. This would lend support to Hartup's opinion that studies of aggressive behavior become meaningful only when viewed functionally (Hartup 1974).

Further interesting findings in regard to sex differences emerged when play behavior of our five to seven year olds was regarded in terms of active versus non-active categories. Like in previous studies on younger children (Smith & Conolly, 1972, Blurton Jones 1972) and children in the same age range (Omark, 1974), boys were significantly more active than girls. It also seems that all other differences among the sexes can perhaps be attributed to this factor.

While on the surface our findings thus tended to partly confirm the oft quoted assertion that boys are more aggressive than girls, and especially more physically aggressive, the present study in which aggression was studied in the framework of total social behaviors seems to put this assertion in its proper perspective, namely that the higher level of aggression

and especially aggression with physical components was a byproduct of the overall higher activity level of boys and especially of their higher level of physical activity which was overwhelmingly positive. When aggressive behavior is quantified as part of all social behaviors rather than in isolation, also the finding that girls are verbally more aggressive than boys (Maccoby & Jecklin 1974) was not supported.

It would be interesting to speculate on possible relations between sex differences in level of activity at early school age and success in school as well as in later life.

The fact that girls seem to do better in early school grades than boys has been often documented and attributed to a variety of reasons. (Maccoby & Jacklin 1974). Possibly, their lower level of activity could be an additional contributing factor to their better performance as it would make it less irksome for them to conform to school routine, and imposed periods of silence, attention and passivity. However it still has to be proven that this early school success is indeed conducive to success in later life. At present in many societies, indications seem to the contrary, with the

more active males emerging in leading positions in professional and scholastic careers. Could it thus be that early in their school careers girls are rewarded for a type of behavior which will not be conducive to certain forms of achievement in later life? If this were so, a type of early school experience which would induce girls to become more active could be of value for them. In fact a transition to activity oriented learning approaches in the present Experimental Project resulted in a significant improvement of girls' performance on a creativity test (Strauss, Harrison & Feitelson in preparation).

We will now deal with solitary and parallel play and with onlooker and adult directed behavior. Over the years there has been little consistency in attempts to evaluate the developmental significance of these types of behaviors. Fortunately, several recent studies have contributed to a somewhat clearer understanding of the issues involved. The present study showed that the amount of solitary play of five to seven year olds closely resembled that found in studies on younger children (18.8% in the present study versus Parten 17.5%, Rubin et al. 14.96 - 19.83%). On the other hand, children in the present study engaged somewhat more in onlooker behavior, and considerably less in parallel play than younger children (only 6.4% versus Parten 31.67%, Rubin et al 29.07% - 37.37%, Barnes 23.82%).

Till faily recently, social behavior was often discussed in terms of a continuum from social to non-social behavior, with an implied value judgement that social interaction was preferable to any solitary activity. On such continuums, parallel play would probably be regarded as preferable to onlooker behavior, and onlooker to solitary play. However, more recently, there has been an increased interest in the developmental role of non-social play. Moore, Everton and Brophy (1974) concluded "that for most children ..... solitary play is a normal and probably functionally beneficial activity rather than an indicant of poor social adjustment". They suggested a developmental continuum of solitary play in which children move from passively watching to becoming independently involved in more challenging problem-solving activities. Also in the present study, solitary play episodes were characterised by purposeful activity, and personal initiative. Not infrequently, an element of sustained and self-imposed training in skills was evident, such as when children jumped rope, threw and caught balls or played by themselves with marbles or chewing gum covers (a favorite passtime in Israel) - in rehearsal as it were for group play.

Children in the present study engaged more in onlooker behavior than younger children in earlier studies. This finding may be at least partly due to the fact that children were observed during outdoor free play, a time regarded by teachers as break.

Onlooker behavior at such times would therefore be considered legitimate and tolerated whereas indoors, teachers would most probably try to induce on onlooker to take part in one of the ongoing activities. This interpretation is supported by the extremely low incidence of teacher-directed activity in the present study, only one percent of all recorded behavior instances.

So far there have been few systematic studies of onlooker behavior, and many fascinating questions remain unanswered. Are there some children who are more prone to this type of behavior than others? How do they observe? What possible benefits could be expected to accrue from this activity?

That older children can indeed learn by observation has been shown in laboratory studies by Bandura (1969) and Zimmerman & Rosenthal (1974). In a naturalistic observational study of very young children White et al (1976) discovered great personal differences in the amount of time spent in onlooker behavior. There was a high correlation between amount of time spent in "steady staring" before age three and performance on WISC at age five. Children who were developing well spent nearly double the amount of time in this way than children who were developing poorly.

These longitudinal findings led White to conclude that steady staring, which occupied twenty percent of all waking behavior of his best developing children, was an efficient way in which a young child learns and develops. Also in the study on homogeneous and heterogeneous grouping in Israeli preschools (Feitelson, Weintraub and Michaeli, 1972; Krown and Many, 1974), disadvantaged children were sometimes observed watching play of their priviledged peers from the sidelines before imitating it.

The last behavior category - parallel play - was the one in which there was the greatest difference between the present study and results obtained for younger children. Studies of younger children reported a uniformly fairly high incidence, about 30%, of this type of behavior at ages three to four and a half (Parten, 1932; Rubin et al. 1976; Barnes, 1971; Goldman, 1976). At age five to seven parallel play was only 6.4 percent of all recorded play instances. That this difference was not due to environmental factors but is probably a truly developmental change is evident from the fact that Parten for instance found parallel play especially freqently in play in the sandbox, an item which was standard equipment also in the present study.

One can therefore safely assume that the role of parallel play after age five declines and that this type of behavior is superceded by more mature forms of social behavior, namely an additional increase in positive social interactions.

The second main topic of the present study, were social organization patterns at ages five to seven.

In line with findings of studies of both younger as well as older children (Parten, 1933; Omark, 1974; Eiferman, 1970) the preferred form of social organization in the present study was in groups of two.

A further finding of previous studies which was reconfirmed by the present study was that with increase in age there was a tendency towards greater amounts of play in larger groups, which however did not change the fact that dyads remained the predominant group size at all ages studied.

Boys' social participation in playgroups was significantly higher than girls' and consequently they formed contacts with more other children than girls. Between the ages of five to seven boys can therefore be considered to be more sociable than girls. Again it seems that even at this early stage there is an overall tendency for boys to exhibit ways of behavior which are considered useful in later life. Overall, social organization

patterns of five to seven years olds, as revealed in this study, were well balanced. With increase in age there was a parallel increase in ability to cope with more complex situations, yet this was not achieved at the expense of the ability to maintain intimate bonds with one other person.

Social psychologists of group organization (Bales & Borgatta 1965; Weick, 1969) perceive the dyadic unit as the basic organizational structure of all human ties. According to them dyadic interaction presupposes a high degree of human involvement and mutual dependence, whereas participation in groups necessitates managerial social skills like planning, division of labour and group cooperation and coordination.

To sum up, the aim of the present study was to extend available knowledge in the social developmental domain to an age group which had not previously been studied. The setting chosen was outdoor free play, which is all through childhood both natural and frequent. Clearly there is a need to extend the study of social behavior and of spontaneous group formation to other settings as well as to further age groups.

Characteristics of behavior categories ought to be studied developmentally, as one and the same category may well have different roles at different stages of development. A better understanding of these could result in the focusing of educational intervention strategies at those points where they could be most beneficial to furthering social and cognitive development.

The present study took place within an experimental educational framework in which kindergartners were in (~~intensive~~) daily contacts with first graders. Age differences in social behavior and organization were surprisingly small. It may well be that these results were perhaps influenced by the very nature of the experimental framework itself, and could therefore not serve as a basis for generalizations. Possibly the frequent close contact with older peers accelerated the social development of the younger children in the study beyond what could have been expected had they been in interaction with their own age mates only. Some indications that indeed this may have been the case were evident from a very small pilot study in which five year olds were observed in regular kindergartens (Lazarowitz & Zahavi 1976). Clearly the possible influence of educational settings on social behavior ought to be pursued further.

In contrast to recent pessimistic pronouncements about an impairment in social skills of Western children in the seventies, due to changes in life patterns and mass media, Israeli children in the present study emerged as well socially adjusted and with a wide and varied repertoire of social behaviors. Whether these trends are truly developmental and would occur also in other groups of five to seven year olds or whether they were mainly due to environmental factors will require further investigation.

Reference Notes

1. Feitelson, D., Representational play: Its developmental role and prerequisites. Paper presented at the Moore-Park Conference on the Biology of Play, England 1975.

2. Strauss H., Harrison J., Feitelson D., Measuring the achievements of children in the infant school project. Research progress report, 1976. (In Hebrew).

References

Altmann, J., Observational study of behavior: sampling methods. Behavior, 1973, 49, 227-267.

Avedon, E., & Sutton-Smith, B., The study of games. New-York, John Wiley & Sons, 1971.

Bales, R.F., Borgatta, E.F., Sizr of group as a factor in the interaction profile. In: Hare, A.P., Borgatta, E.F., Bales, R.F., Small groups. Alfred A., Konopf, New-York, 1965.

Bandura, A., Principles of behavior modification. Holt Rineholt & Winston, N.Y., 1969.

Barnes, K.E., Preschool play norms: a replication. Developmental psychology, 1971, 5, No. 1.

Bar-Tal, D., Pro-Social behavior. John Wiley & Sons, 1976.

Blurton Jones, N., Categories of child-child interaction. In: N. Blurton-Jones (ed.) Ethological studies of child behavior. London, Cambridge Univ. Press, 1972, ch. 4.

Charlesworth, R., Hartup, W.W., Positive social reinforcement in the nursery school peer group. Child development, 1967, 38, 993-1003.

Eifermann, R.R., Determinants of children's game styles. Jerusalem, The Israel Academy of Sciences and Humanities, 1971.

Eiferman, R., It's child's play. In: Shears, L.M., Bower, E.M., (eds.), Games in education and development. Charles C., Thomas, Springfield, Illinois, 1974.

Erickson, E.H., Childhood & society (2nd ed.). New-York: W.W., Norton and Company, 1963.

Feitelson, D., Ross, G.S., The neglected factor-play. Human Develop., 1973, 16, 202-223.

Feitelson, D., Weintraub, S., Michaeli, O., Social interactions in heterogenous preschools in Israel. Child Development, 1972, 43, No. 4.

Feshbach, S., Aggression. In: Mussen, P.H. (ed.) Charmichael's Manual of Child Psychology. New-York, John Wiley & Sons, 1970. Vol. II.

Gehler, W., The development of social behavior in pre-school and elementary grade children. Early Child Development and Care, 1972, 1, 227-235.

Goldman, J.A., The social participation of pre-school children in same age versus mixed age groupings. Unpublished Ph.d. dissertation. University of Wisconsin, 1976.

Goodenough, F.L., Measuring behavior traits by means of repeated short samples. J. Juv. Res., 1928, 12, 230-235.

Hartup, W.W., Aggression in childhood : Developmental perspectives. American Psychologist, 1974, 29, 336-341.

Hartup, W.W., Peer interaction and social organization. In: P.H. Mussen (ed.), Charmichael's Manual of Child Psychology, New-York: Wiley, 1970.

Hartup, W.W., Toward a social psychology of childhood. (In Press).

Hertz-Lazarowitz, R., Zahavi S. Peer interaction in the infant-school experiment. In D. Feitelson, E. Rockeach (ed.). The Israeli infant school project - an educational experiment and its implications. Jerusalem, Ministry of Education 1976 (Hebrew).

Jersild, A., Markey, F., Conflicts between preschool children. Monogr. Soc. Res. Child Dev., 1935, No.21.

Krebs, D.L., Altruism - an examination of the concept and a review of the literature. Psychological Bulletin, 1970, 73, 258-302.

Krown, S., Many, M., Threes and fours go to school, New-Jersey, Prentice-Hall, 1974.

Loomis, A.P., A technique for observing the social behavior of nursery school children. Child Development Monographs, No. 5, 1931.

Maccoby, E.E., & Jacklin, C.N., The Psychology of sex differences. Stanford University Press, California, 1974.

Manwell, E.M., Mengert, I.G., A study of the development of two-and-three-year-old children with respect to play activities. U. Towa Studies in Child Welfare, 1934, 9, No. 3.

Moore, N.V., Evertson, C.M., & Brophy, J.E. Solitary play: some functional reconsiderations. Developmental Psychology, 1974, 10, 830-834.

Omark, D.M., Edelman, M.S., A developmental study of group formation in children. Learning Research and Development Center. University of Pittsburgh, 1974.

Opie, I., Opie, P., Children's games in street and playground, London, Clarendon, 1969.

Piaget, J., The moral judgement of the child, New York: The Free Press, 1965.

Piaget, J., Play, dreams and imitation in childhood. New-York, Norton, 1962.

Parten, M., Social participation among pre-school children. J. Abnorm. Soc. Psychol., 1932, 27, 243-269.

Parten, M.B., Social play among preschool children. Journal of Abnormanl and Social Psychology, 1933, 28, 136-147.

Rubin, K.H., Maioni, T.L., Hornung, M., Free play behaviors in middle-and-lower class preschoolers: Parten & Piaget revisited. Child Development, 1976, 47, 414-419.

Smilansky, S., The effect of sociodramatic play on disadvantaged children: preschool children. New-York: Wiley, 1968.

Smith, P.K., & Connolly, K., Patterns of play and social interaction in preschool children. In: N. Blurton-Jones (ed.) Ethological Studies of Child Behavior. London, Cambridge Univ. Press, 1972, Ch. 3.

Sullivan, H.S., The Interpersonal Theory of Psychiatry. New-York: W.W. Norton & Co., 1953.

Sutton-Smith, B., The role of play in cognitive development. In: Herron, R.E., and Sutton-Smith, B., (ed.) Child's Play. New-York, John Wiley & Sons, 1971, ch. 16.

Sutton-Smith, B., The folkgame of children. American Folklore Society. University of Texas Press, 1972.

Walters, J., Pearce, D., Dahns, L., Affectional and aggressive behavior of preschool children. Child Development, 1957, 28, 15-26.

Weick, K., The social psychology of organization. Reading, Mass., Addison Wesley Publishing Co. Inc., 1969.

White, B.L., Kaban, B., Shapiro, B., Attanucci, J., Competence and experience. To be published in: Uzgiris, I.C., & Weizmann, F., (eds.), The Structuring of experience, Plenum Press.

Zimmerman, B.J., & Rosenthal, T.L., Observational learning of rule governed behavior by children. Psychological Bulletin, 1974, 81, 29-42.

Footnote

We would like to express our appreciation to the children and the staffs of "Dror", "Alumot" and "Tachkmoni" schools for their kind cooperation. We would also like to thank Dr. A. Levy, Bella Pevsner and Zilla Goldfried for their assistance in data analysis.

Request for reprints should be sent to Rachel Hertz-Lazarowitz, School of Education, University of Haifa. Haifa 31999, ISRAEL.

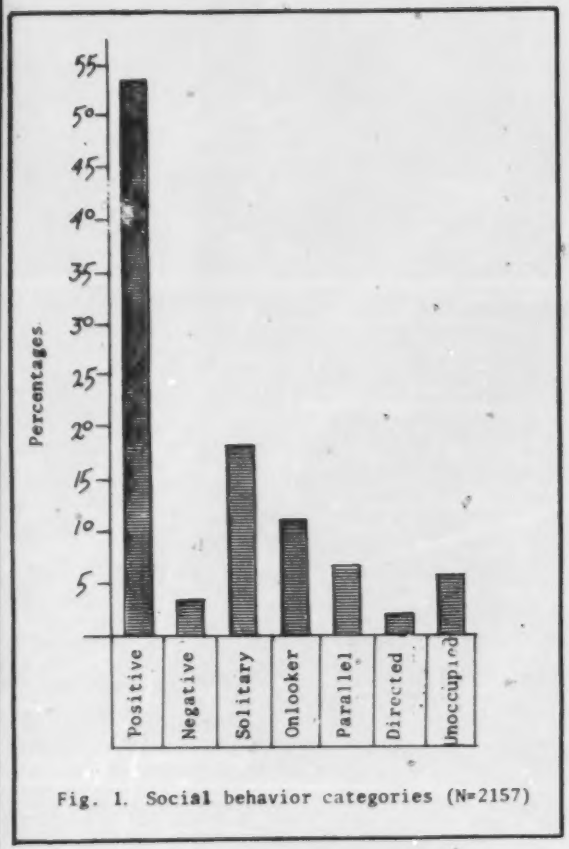

Fig. 1. Social behavior categories (N=2157)

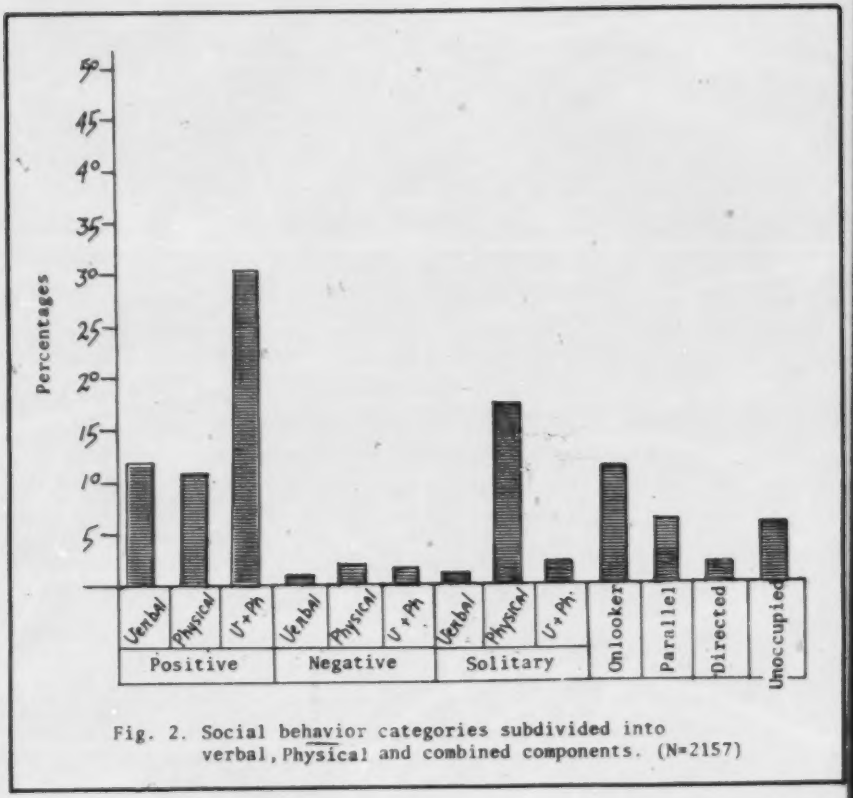

Fig. 2. Social behavior categories subdivided into verbal, Physical and combined components. (N=2157)

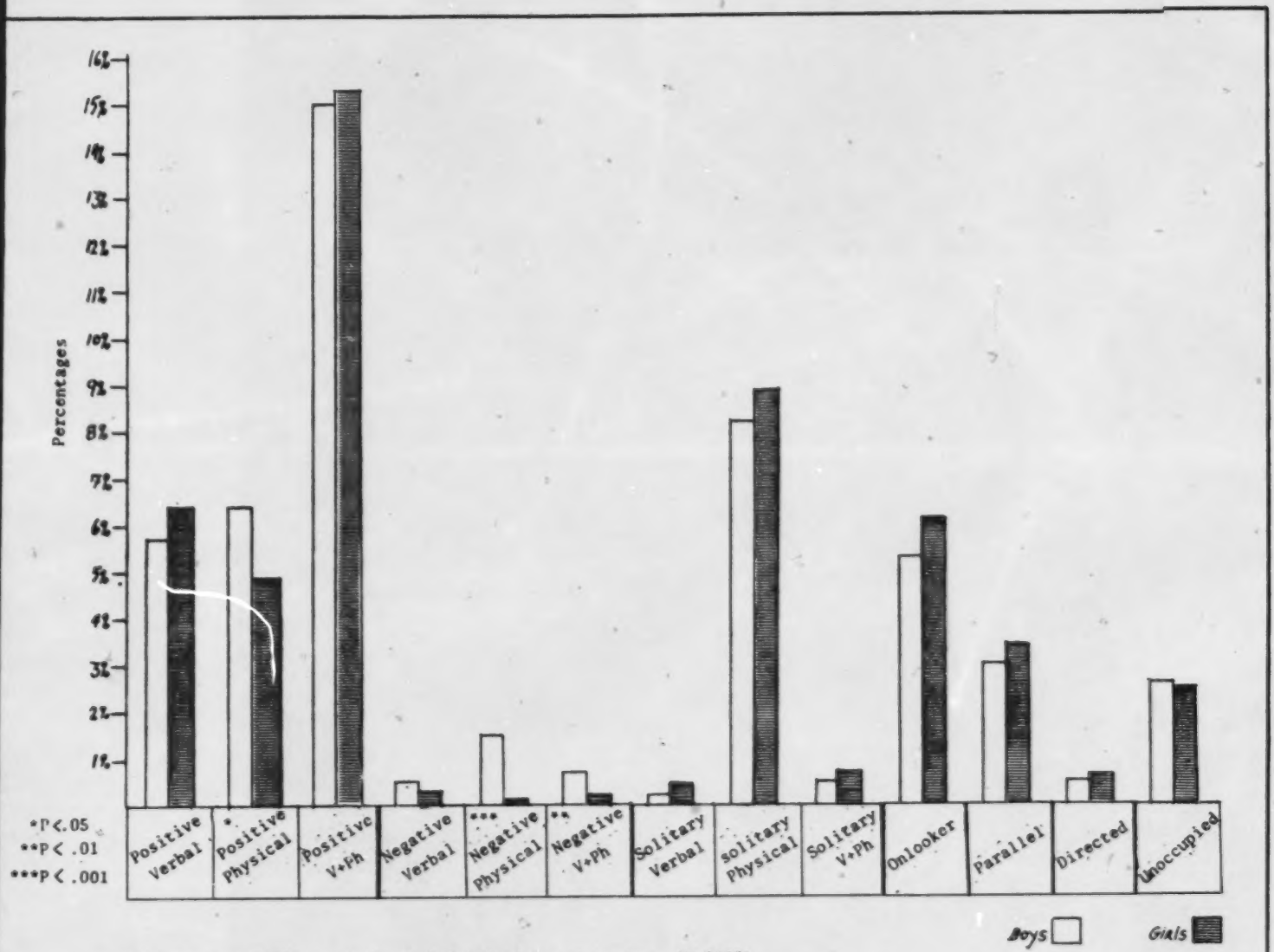

Fig. 3. Sex differences in social behavior categories. (N=2157)

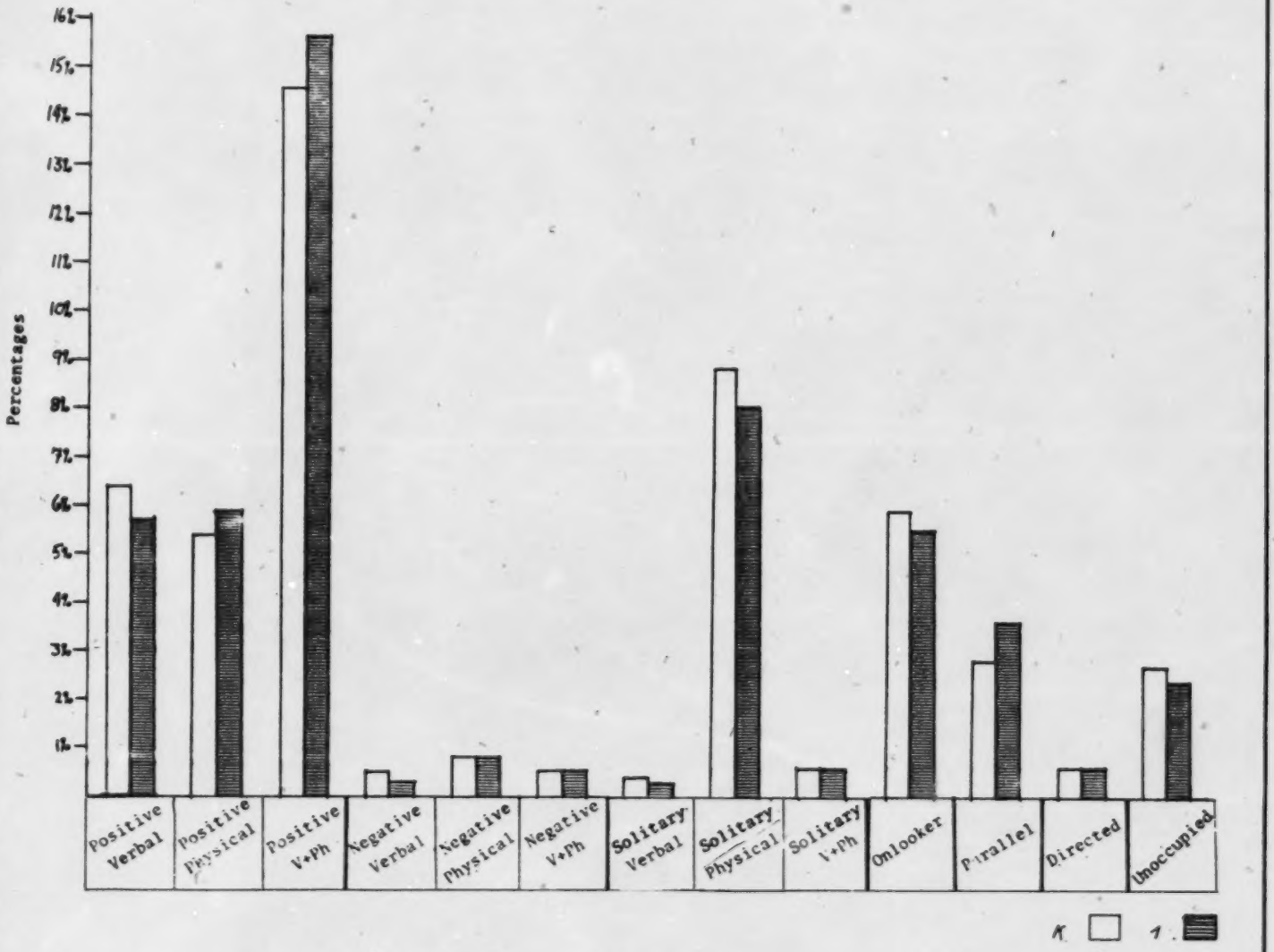

Fig. 4. Age differences in social behavior categories. (N=2157)

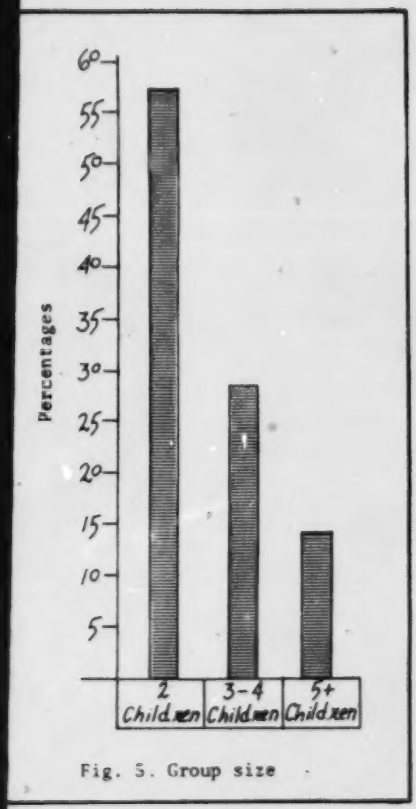

Fig. 5. Group size

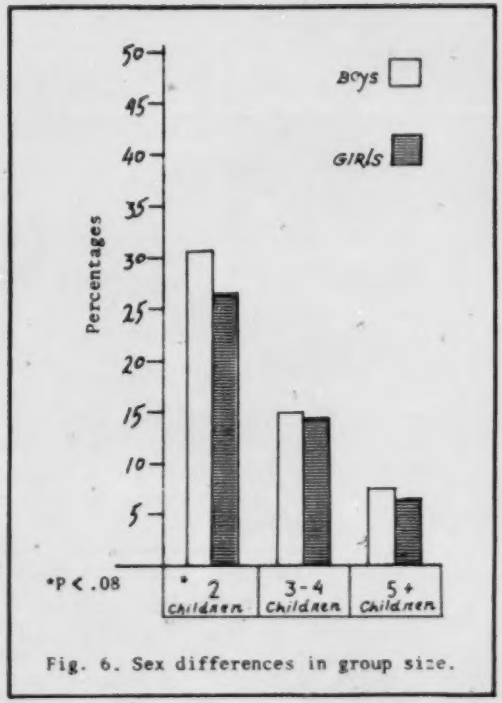

Fig. 6. Sex differences in group size.

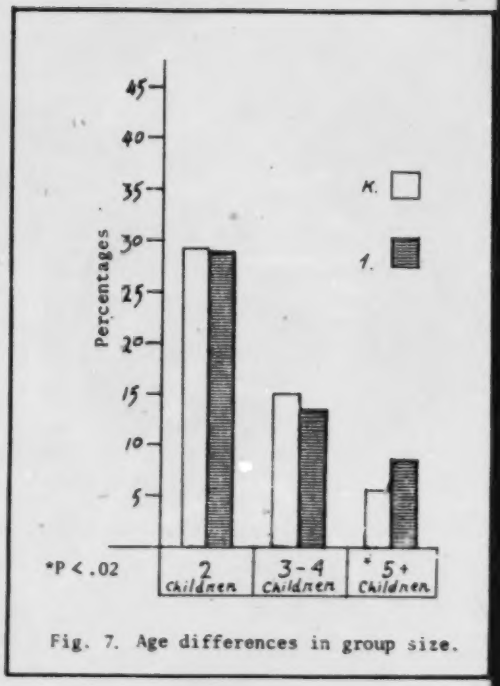

Fig. 7. Age differences in group size.